

FORM PTO 1390 (REV 5-93)		US DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTORNEY DOCKET NO. 2000_0107A	
<b>TRANSMITTAL LETTER TO THE UNITED STATES          DESIGNATED/ELECTED OFFICE (DO/EO/US)          CONCERNING A FILING UNDER 35 USC 371</b>				U.S. APPLICATION NO. (if known, see 37 CFR 1.52) NEW <b>09/529059</b>	
<b>International Application No.</b> PCT/NZ99/00018 ✓		<b>International Filing Date</b> February 9, 1999 ✓		<b>Priority Date Claimed</b> February 13, 1998 ✓	
<b>Title of Invention</b> IMPROVEMENTS IN AND RELATING TO ROOFING OR SHEATHING ✓					
<b>Applicant(s) For DO/EO/US</b> James Cameron Ross ✓					
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:					
1. <input checked="" type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a filing under 35 USC 371.					
2. <input type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a filing under 35 USC 371.					
3. <input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 USC 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 USC 371(b) and PCT Articles 22 and 39(1).					
4. <input checked="" type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.					
5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 USC 371(c)(2)) <div style="margin-left: 20px;">           a. <input checked="" type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau). Attachment A            b. <input type="checkbox"/> has been transmitted by the International Bureau.            c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).         </div>					
6. <input type="checkbox"/> A translation of the International Application into English (35 USC 371(c)(2)).					
7. <input type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 USC 371(c)(3)). <div style="margin-left: 20px;">           a. <input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau).            b. <input type="checkbox"/> have been transmitted by the International Bureau.            c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.            d. <input type="checkbox"/> have not been made and will not be made.         </div>					
8. <input type="checkbox"/> A translation of the amendments to the claims under PCT Article 19 (35 USC 371(c)(3)).					
9. <input checked="" type="checkbox"/> An executed oath or declaration of the inventor(s) (35 USC 371(c)(4)). Attachment B					
10. <input type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 USC 371(c)(5)).					
<b>Items 11. to 16. below concern other document(s) or information included:</b>					
11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. Attachment E					
12. <input checked="" type="checkbox"/> Two assignment documents for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. Attachment C					
13. <input checked="" type="checkbox"/> A FIRST preliminary amendment. Attachment J <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment.					
14. <input type="checkbox"/> A substitute specification.					
15. <input type="checkbox"/> A change of power of attorney and/or address letter.					
16. <input checked="" type="checkbox"/> Other items or information: <div style="margin-left: 20px;">           E) International Search Report, Form PCT/ISA/210; H) Written Opinion dated October 25, 1999, Form PCT/IPEA/408; F) Written Opinion dated August 31, 1999, Form PCT/IPEA/408; G) Response to Written Opinion of August 31, 1999 D) Small Entity Declaration; I) PCT/IPEA/409 with annexes (9 sheets)         </div>					

U.S. APPLICATION NO. (if known) 37 CFR 1.5 NEW <b>09/529059</b>		INTERNATIONAL APPLICATION NO. PCT/NZ99/00018		ATTORNEY DOCKET NO. 2000 0107A	
17. [X] The following fees are submitted				CALCULATIONS	PTO USE ONLY
<b>BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5)):</b>  <input type="checkbox"/> Search Report has been prepared by the EPO or JPO ..... \$840.00 <input type="checkbox"/> International preliminary examination fee paid to USPTO (37 CFR 1.482) ..... \$670.00 <input type="checkbox"/> No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37 CFR 1.445(a)(2)) ..... \$690.00 <input checked="" type="checkbox"/> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... \$970.00 <input type="checkbox"/> International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(2)-33(4) ..... \$ 96.00  <b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b>				\$970.00	
Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).				\$	
Claims	Number Filed	Number Extra	Rate		
Total Claims	17 - 20 =	0	X \$18.00	\$	
Independent Claims	3 - 3 =	0	X \$78.00	\$	
Multiple dependent claim(s) (if applicable)			+ \$260.00	\$	
<b>TOTAL OF ABOVE CALCULATIONS =</b>				\$970.00	
Reduction by 1/2 for filing by small entity, if applicable. Verified Small Entity Statement must also be filed. (Note 37 CFR 1.9, 1.27, 1.28)				\$485.00	
<b>SUBTOTAL =</b>				\$485.00	
Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$	
<b>TOTAL NATIONAL FEE =</b>				\$485.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (\$40 per property).				\$80.00	
<b>TOTAL FEES ENCLOSED =</b>				\$565.00	
				Amount to be refunded:	\$
				charged:	\$

THE COMMISSIONER IS AUTHORIZED  
TO CHARGE THE AGENCY IN THE  
FEE FOR THIS PART TO DEPOSIT  
ACCOUNT NO. 28-0975.

- a. ☒ A check in the amount of \$565.00 to cover the above fees is enclosed.
- b. ☐ Please charge my Deposit Account No. 23-0975 in the amount of \$\_\_\_\_\_ to cover the above fees. A duplicate copy of this sheet is enclosed.
- c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 23-0975. A duplicate copy of this sheet is enclosed.

**NOTE:** Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

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By: 

Nils E. Pedersen

Registration No. 33,145

April 7, 2000

NEP/tf

Check No. 37546

2000\_0107A

DECLARATION SUPPORTING CLAIM FOR SMALL ENTITY STATUS

The undersigned hereby declare(s) that this statement is made to support a claim by the below identified entity for purposes of paying reduced fees under Sections 41(a) and (b) of Title 35, United States Code, with regard to an invention entitled IMPROVEMENTS IN AND RELATING TO ROOFING OR SHEATHING, invented by James Cameron ROSS and described in \_\_\_\_\_

- ☒ the specification filed herewith.  
☐ application Serial No. \_\_\_\_\_, filed \_\_\_\_\_  
☐ Patent No. \_\_\_\_\_, issued \_\_\_\_\_

☐ a. I am/we are the inventor(s) of the above-identified application.

☐ b. I/we would qualify as (an) independent inventor(s) as defined in 37 C.F.R. 1.9(c) if I/we had made the above-identified application, and rights under contract law with regard to the above-identified invention have been conveyed to and remain with me/us.

☒ c. I am ☐ the owner ☒ an official of the below-identified small business concern; rights under contract law with regard to the above-identified invention have been conveyed to and remain with the below-identified small business concern; and this concern qualifies as a small business concern as defined in 13 C.F.R. 121.3-18, and reproduced in 37 C.F.R. 1.9(d), for purposes of paying reduced fees under sections 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons, said number being determined and said affiliates being defined in 13 C.F.R. 121.3-18.

No rights in the invention have been assigned, granted, conveyed or licensed or further assigned, granted, conveyed or licensed, and there is no obligation under contract or law to assign, grant, convey or license, or further assign, grant, convey or license such rights to any person who could not be classified as an independent inventor under 37 C.F.R. 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 C.F.R. 1.9(d) or a nonprofit organization under 37 C.F.R. 1.9(e).

Each person, concern or organization to which any rights in the invention have been assigned, granted, conveyed, or licensed or further assigned, granted, conveyed, or licensed or further assign, grant, convey or license, or as to where there is an obligation under contract or law to assign, grant, convey, or license such rights is listed below:

- ☒ no such person, concern, or organization  
☐ persons, concerns or organizations listed below\*

\*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 C.F.R. 1.27)

FULL NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_  
☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

FULL NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_  
☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

I/we acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 C.F.R. 1.28(b))

I/we further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon, or any patent to which this declaration is directed.

NAME	SIGNATURE	DATE
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NAME	SIGNATURE	DATE
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Metro Shingles (Intl) Limited

7 The Furlong, Takanini, Auckland, New Zealand

NAME OF SMALL BUSINESS CONCERN
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ADDRESS
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James Cameron Ross



x 9/2/2000

NAME	SIGNATURE	DATE
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Director

TITLE
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002070 65062560

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of :  
James Ross : Attn: BOX PCT  
Serial No. NEW : Docket No. 2000\_0107A  
Filed April 7, 2000 :

IMPROVEMENTS IN AND RELATING TO  
ROOFING OR SHEATHING  
[Corresponding to PCT/NZ99/00018  
Filed February 9, 1999]

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

Prior to examination of the above-referenced U.S. patent application please  
amend the application as follows:

IN THE CLAIMS IN THE AMENDED SPECIFICATION (ATTACHMENT I):

Please amend the claims as follows:

- Claim 2, line 1, change "the preceding claim" to --claim 1--.
- Claim 7, line 1, change "any one of the claims 1 to 6 inclusive" to --claim 1--.
- Claim 8, line 2, change "any one of claims 1-7 inclusive" to --claim 6--.
- Claim 9, line 2, delete "when dependant on claims 4-6 inclusive".

Please add the following new claims:

--10. An exterior sheathing element as claimed in claim 2, wherein the mounting tab includes a laterally extending support batten forming channel therein.

11. An exterior sheathing element as claimed in claim 3, wherein the mounting tab includes a laterally extending support batten forming channel therein.

12. An exterior sheathing element as claimed in claim 4, wherein the mounting tab includes a laterally extending support batten forming channel therein.

13. An exterior sheathing element as claimed in claim 5, wherein the mounting tab includes a laterally extending support batten forming channel therein.

14. An exterior sheathing element as claimed in claim 6, wherein the mounting tab includes a laterally extending support batten forming channel therein.

15. A method of exterior sheathing a structure with a plurality of sheathing elements as claimed in claim 1, comprising substantially of repeating the steps of positioning a first sheathing element on a sheathing element support of the structure, positioning a second sheathing element with a side section thereof in an overlapping relationship with a section side of the first element and in so doing ensuring their corresponding folded edge portions engage one within the other by the side section of the first folded edge portion of the underlay element being located in the groove formed by the corresponding section of the overlay element, and the side section of the second folded section of the overlay element being located in the groove formed by the corresponding section of the underlay element, and positioning a first folded edge portion of a third sheathing element in engagement over the overlapping sections and adjacent sections of the second folded edge portions of the first and second sheathing elements with those second folded edge sections being located in the groove formed by the first folded edge portion of the third

element, and throughout utilising mounting means with the mounting tabs to affix the sheathing elements to the support.

16. A method of exterior sheathing a structure with a plurality of sheathing elements as claimed in claim 3, comprising substantially of repeating the steps of positioning a first sheathing element on a sheathing element support of the structure, positioning a second sheathing element with a side section thereof in an overlapping relationship with a section side of the first element and in so doing ensuring their corresponding folded edge portions engage one within the other by the side section of the first folded edge portion of the underlay element being located in the groove formed by the corresponding section of the overlay element, and the side section of the second folded section of the overlay element being located in the groove formed by the corresponding section of the underlay element, and positioning a first folded edge portion of a third sheathing element in engagement over the overlapping sections and adjacent sections of the second folded edge portions of the first and second sheathing elements with those second folded edge sections being located in the groove formed by the first folded edge portion of the third element, and throughout utilising mounting means with the mounting tabs to affix the sheathing elements to the support.

17. A method of exterior sheathing a structure with a plurality of sheathing elements as claimed in claim 4, comprising substantially of repeating the steps of positioning a first sheathing element on a sheathing element support of the structure, positioning a second sheathing element with a side section thereof in an overlapping relationship with a section side of the first element and in so doing ensuring their corresponding folded edge portions engage one within the other by the side section of the first folded edge portion of the underlay element being located in the groove formed by the corresponding section of the overlay element, and the side section of the second folded section of the overlay element being located in the groove formed by the corresponding section of the underlay element, and positioning a first folded edge portion of a third sheathing element in engagement over the overlapping sections and adjacent sections of the



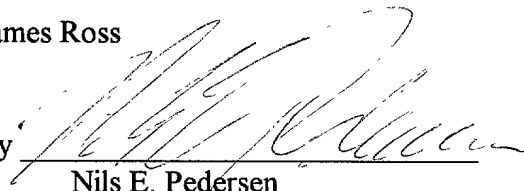
second folded edge portions of the first and second sheathing elements with those second folded edge sections being located in the groove formed by the first folded edge portion of the third element, and throughout utilising mounting means with the mounting tabs to affix the sheathing elements to the support.--

### REMARKS

The present Preliminary Amendment is submitted to delete the multiple dependency of the claims, thereby placing such claims in condition for examination and reducing the required PTO filing fee.

Respectfully submitted,

James Ross

By 

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April 7, 2000

422 Rec'd PCT/PTO 07 APR 2000

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TITLE.

IMPROVEMENTS IN AND RELATING TO ROOFING OR SHEATHING.

TECHNICAL FIELD OF THE INVENTION.

This invention relates to an exterior sheathing element and a method of applying exterior  
5 sheathing to a structure. More particularly the invention relates to a sheet metal sheathing  
element useful for roofing.

BACKGROUND ART OF THE INVENTION.

A variety of exterior sheathing elements including those formed from sheet metal are known.  
Traditionally with exterior sheathing, particularly roofing, the word "tile" is used to indicate a  
10 single tile such as a concrete tile. With the development of sheet metal sheathing it has become  
well established to manufacture elements that visually replicate the designs of such traditional  
tiles. Because these sheet metal tiles are substantially lighter than their concrete counterparts  
they are normally manufactured as multiple units, that is, as to replicate say three or four  
traditional tiles. This capability is one of the advantages these tile have over the traditional  
15 "single" tile. This invention is primarily concerned with a multiple sheet metal tile and herein the  
term "tile" is used accordingly. However, the nature of the invention does lend itself for  
manufacture and use as a single tile element and the term is to be considered as being applicable  
to either form of tile.

A first object of this invention is to provide a sheet metal sheathing element particularly useful  
20 as a roofing tile that can be manufactured utilising thinner sheet metal than typically used with  
sheet metal tiles. A second object is to provide a sheet metal tile that replicates a traditional  
wooden shingle "tile" particularly in a multiple configuration thereof as discussed above relative  
to concrete tiles. A further object of this invention is to provide such a sheathing element  
adapted for individual fixing to a supporting structure and subsequent conjoining and fixing of  
25 further tiles both laterally and longitudinally of the first tile. The steps can be repeated to cover  
a desired area of a supporting structure and thus a further object is to provide a method of  
affixing sheathing tile to a structure. Yet a further object is to provide the public with a further  
choice in sheathing elements in particular a sheathing element suitable for mounting by  
relatively unskilled people.

## DISCLOSURE OF THE INVENTION

According to a first aspect of this invention there is provided an exterior sheathing element having a first edge portion forming a channel on what, in situ, will be an innerface of the element, and having a second and opposite edge portion forming a channel on what, in situ, will be an outerface of the element, with a part of that second edge portion, being a part set-back from at least one side of the tile, having a mounting tab projecting clear of the second edge portion in a substantially co-planar relationship to a main body of the element, the structure enabling a mounting tab free part at one side of a first sheathing element to be overlapped with a side of a second element with their corresponding folded edge portions engaged, and a first folded edge portion of a third sheathing element to be engaged over and about the second folded edge portion of at least one of the first and second sheathing elements.

According to a second aspect of this invention there is provided a sheet metal exterior sheathing element configured to replicate at least one wooden shingle and comprising a substantially planar body save for strengthening indentations including, adjacent one side, a series of longitudinally extending ribs, the ribs being on that side of a tile intended, in use, to be disposed on the underside when overlapped with a side of a second element to also act as weathering indentations, and having a first edge portion turned back on itself to form a channel on what, in situ, will be an innerface of the element, and having a second and opposite edge portion also turned back on itself to form a channel on what, in situ, will be an outerface of the element with a part of that second edge portion set-back from at least one side thereof having a return fold to extend back on itself and project clear of and substantially co-planar to the body of the element to form a mounting tab, the structure enabling a first and second sheathing element disposed with their sides overlapping and their corresponding folded edge portions engaged, the first folded edge of the lowermost tile being located within the channel of the first folded edge of the uppermost element and the mounting tab free part of the second folded edge of the uppermost element being located within the channel of the lowermost element and a first folded edge portion of a third tile to be engaged over and about the second folded edge portion of at least one of the first and second tiles.

According to a third aspect of this invention there is provided an exterior sheathing element having a substantially planar body and having a first edge portion folded over to overlay, in

adjacent spaced relationship to thereby form a first transversely disposed channel, what in situ will be a lower section of an innerface of the element, and having a second edge portion opposite the first edge portion, folded over to overlay, in adjacent spaced relationship to thereby form a second transversely disposed channel, what in situ will be an upper section of an

5 outerface of the element, at least a part of the second edge portion being further folded back on and over itself to form a mounting tab projecting clear of the second edge portion in a substantially co-planar relationship to the plane of the body of the element, the structure of the element enabling a first side portion of a first sheathing element to be overlapped with a second and opposite side portion of a second element without engagement except for the overlapping

10 sections of the first and second folded edge portions, engagement of those sections being by the side section of the first folded edge portion of the underlay element being located in the groove formed by the corresponding section of the overlay element, and the side section of the second folded section of the overlay element being located in the groove formed by the corresponding section of the underlay element, and a first folded edge portion of a third sheathing element to

15 be engaged over the overlapping sections and adjacent sections of the second folded edge portions of the first and second sheathing elements with those second folded edge sections being located in the groove formed by the first folded edge portion of the third element.

According to a fourth aspect of this invention there is provided a method of exterior sheathing a structure with a plurality of sheathing elements as described in any one of the three

20 immediately preceding paragraphs comprising substantially of repeating the steps of positioning a first sheathing element on a sheathing element support of the structure, positioning a second sheathing element with a side section thereof in an overlapping relationship with a section side of the first element and in so doing ensuring their corresponding folded edge portions engage one within the other by the side section of the first folded edge portion of the underlay element

25 being located in the groove formed by the corresponding section of the overlay element, and the side section of the second folded section of the overlay element being located in the groove formed by the corresponding section of the underlay element, and positioning a first folded edge portion of a third sheathing element in engagement over the overlapping sections and adjacent sections of the second folded edge portions of the first and second sheathing elements

30 with those second folded edge sections being located in the groove formed by the first folded

edge portion of the third element, and throughout utilising mounting means with the mounting tabs to affix the sheathing elements to the support.

#### BRIEF DESCRIPTION OF DRAWINGS.

5 Fig. 1 is an upperface or obverse view of two sheathing elements being presented to one another in readiness for being laterally overlapped and engaged with one another as depicted in Figure 2, and

Fig. 3 depicts a third sheathing element adjacent the two laterally overlapped elements depicted in Figure 2, the third element being presented to be joined to the first two elements in a position depicted schematically by broken-line 3, and

10 Fig. 4 is a partly schematic side view essentially in the direction of arrow A on Figure 3 and with the elements engaged with one another and mounted in situ onto a support extending adjacently therebeneath for substantially the complete span of the sheathing and

15 Fig. 5 is a similar view to Figure 4 depicting a variation of the sheathing element mounted to support rafters disposed in a spaced apart manner beneath the sheathing.

#### BEST MODE OF CARRYING OUT OF THE INVENTION.

A sheathing element 1 is preferably manufactured from sheet metal in known manner such as by pressing, roll forming and/or folding. Preferably element 1 is designed as a multiple tile as discussed above and in particular to replicate a plurality of wooden shingles arranged in a side  
20 overlapping side relationship as in situ. While the tile of this invention can be manufacture from sheet metal as typically used for sheet metal sheathing tiles; the design lends itself suitable for manufacture using thinner sheet metal. This in turn enables the tile to economically replicate wooden shingles. Preferably sheet metal in the region of 0.27mm gauge is used, in situ, this necessitating a support extending completely therebeneath. Typically such a support is, as  
25 depicted in Figure 4, plywood or similar sheets 2 being mounted on rafters 16 or similar elements to completely cover an area. Because of their lightweight, their design and their

preferred utilisation with such a support the tile of this invention is suitable for mounting by relatively unskilled people.

Preferably sheathing element 1 is pressed into a thin or substantially single plane configuration having an overall thickness, including inter-engaging channels 7 and 9 as described below, similar to that of a typical wooden shingle. Indentations indicated by various longitudinally extending lines on the drawings are preferably provided to strengthen the tile 1 and provide the desired visual wooden shingle replication. These indentations are not pronounced and in the preferred form the tile 1 has the exterior face thereof coated, in known manner, with stone chips or similar (not shown for the sake of clarity) to enhance this replication.

- 10 The indentations include weather ingress inhibiting ribs 5, preferably longitudinally extending in a corrugated manner and preferably being more pronounced than most of the remainder of the indentations. The ribs 5 are disposed along at least one side zone 4 of the tile 1, being that side that in use is disposed on the underside when overlapped (as depicted by Figs. 1 and 2), with another tile 1. In the drawings both sides of a tile 1 are shown with ribs 4 but they are not  
15 necessary on that side of a tile 1 that will be uppermost in situ.

- A first edge portion 6 is formed back on itself such as by folding to form a channel 7 on what, in situ, will be an innerface of the tile 1. On a second and longitudinally opposite edge portion 8 a further channel 9 is formed on what, in situ, will be an outerface of the tile 1. (While the tile 1 is preferably wider than it is long the terms "side" and "longitudinal" are used in the manner chosen to assist clarity.) Channel 9 is also preferably formed by folding and a mounting tab 10  
20 is also formed projecting from that outer edge portion 8.

- Mounting tab 10 extends along the edge portion 8 but preferably terminates short of one side of the tile 1 to leave a mounting tab free section 11. The tab free section 11 is preferably disposed at the side of the tile opposite the ribs 5 or in other words that side of a tile 1 that will be  
25 uppermost when in a side overlapping relationship with another tile. It will be understood by those skilled in the art and the following description that mounting tab 10 may also terminate short of the other side of the element and need not be continuous.

Mounting tab 10 is preferably formed by providing a return fold on the mounting tab forming part of edge 8, the mounting tab 10 extending back about channel 9 and then outwardly substantially co-planar with the body of the tile 1. The side of edge portion 8 distal of mounting tab free part 11 and the associated engaging section of edge portion 6 may be stepped, as indicated at 17 on tile 1a in Figure 1, to assist the side overlap engagement, and continuity of line, of one tile with another. For similar reasons, at the area 17, channel 9 may be marginally "opened" and at the tab free part 11 marginally "closed".

The construction and arrangement of the tile 1 enables a plurality of tiles 1 to be laterally overlapped with one another as depicted in Fig. 2. Referring in particular to Fig. 1, the overlap is undertaken by presenting a first tile 1a to a second tile 1b. This is indicated by double headed arrow 13, the overlap providing their corresponding edge portions 7 and 8 are engaged within one another. More particularly, the edge portion 6 of tile 1b locates within channel 7 of tile 1a and the tab free section 11 of edge portion 8 of tile 1a locates in channel 9 of tile 1b.

Referring in particular to Fig. 3 a third tile 1c can then be presented; as indicated by the double headed arrow 15, to tiles 1a and/or 1b. Preferably the presentation is as to engage the folded edge 7 of tile 1c over and about the overlapping folded edges 8 of the tiles 1a and 1b and as to extent to either side of that overlap. This relationship of three such tiles 1 enhances the weathering capabilities of the junction between the tiles 1. For clarity, this engagement is depicted in side view schematically in Figs. 4 and 5, the engagement being in the nature of a close nesting or clipping together.

A preferred method of in situ mounting is to connect tiles 1 in the sequence described above. In so doing the tiles are rested on backing support sheet 2 and fixed thereto such as by stapling 12 through the mounting tabs 10 into the sheet 2. These steps are substantially repeated to cover the whole of a required area. In so doing the mounting tabs 10 are hidden from view and a continuous sheathing finish achieved.

Referring in particular to Fig. 5 a variation of the sheathing element 1 is depicted. This sheathing element 1d is preferably manufactured from thicker sheet metal in the region of 0.5mm gauge sheet metal. Mounting tab 10 incorporates a laterally extending channel 1 that can be used as a batten to affix the sheathing elements 1d directly to spaced apart rafters 16.

## THE CLAIMS.

1. An exterior sheathing element having a first edge portion forming a channel on what, in situ, will be an innerface of the element, and having a second and opposite edge portion forming a channel on what, in situ, will be an outerface of the element, with a part of that second edge portion, being a part set-back from at least one side of the tile, having a mounting tab projecting clear of the second edge portion in a substantially co-planar relationship to a main body of the element, the structure enabling a mounting tab free part at one side of a first sheathing element to be overlapped with a side of a second element with their corresponding folded edge portions engaged, and a first folded edge portion of a third sheathing element to be engaged over and about the second folded edge portion of at least one of the first and second sheathing elements.
2. An exterior sheathing element as claimed in the preceding claim wherein the mounting tab free part is provided at the side of the tile intended, in use, to be on the upperside when overlapped with a side of a second element
3. A sheet metal exterior sheathing element configured to replicate at least one wooden shingle and comprising a substantially planar body save for strengthening indentations including, adjacent one side, a series of longitudinally extending ribs, the ribs being on that side of a tile intended, in use, to be disposed on the underside when overlapped with a side of a second element to also act as weathering indentations, and having a first edge portion turned back on itself to form a channel on what, in situ, will be an innerface of the element, and having a second and opposite edge portion also turned back on itself to form a channel on what, in situ, will be an outerface of the element with a part of that second edge portion set-back from at least one side thereof having a return fold to extend back on itself and project clear of and substantially co-planar to the body of the element to form a mounting tab, the structure enabling a first and second sheathing element disposed with their sides overlapping and their corresponding folded edge portions engaged, the first folded edge of the lowermost tile being located within the channel of the first folded edge of the uppermost element and the mounting tab free part of the second folded edge of the uppermost element being located within the



channel of the lowermost element and a first folded edge portion of a third tile to be engaged over and about the second folded edge portion of at least one of the first and second tiles.

4. An exterior sheathing element having a substantially planar body and having a first edge portion folded over to overlay, in adjacent spaced relationship to thereby form a first transversely disposed channel, what in situ will be a lower section of an innerface of the element, and having a second edge portion opposite the first edge portion, folded over to overlay, in adjacent spaced relationship to thereby form a second transversely disposed channel, what in situ will be an upper section of an outerface of the element, at least a part of the second edge portion being further folded back on and over itself to form a mounting tab projecting clear of the second edge portion in a substantially co-planar relationship to the plane of the body of the element, the structure of the element enabling a first side portion of a first sheathing element to be overlapped with a second and opposite side portion of a second element without engagement except for the overlapping sections of the first and second folded edge portions, engagement of those sections being by the side section of the first folded edge portion of the underlay element being located in the groove formed by the corresponding section of the overlay element, and the side section of the second folded section of the overlay element being located in the groove formed by the corresponding section of the underlay element, and a first folded edge portion of a third sheathing element to be engaged over the overlapping sections and adjacent sections of the second folded edge portions of the first and second sheathing elements with those second folded edge sections being located in the groove formed by the first folded edge portion of the third element.

5. An exterior sheathing element as claimed in claim 4 wherein the fold back of the second edge portion extends for a part only of the length thereof as to create a mounting tab free part at least at that side section of an element which, in situ, is intended to overlay a side section of an adjacent element.

6. An exterior sheathing element as claimed in claim 5 manufactured from sheet metal to replicate at least one wooden shingle and having on that side section opposite the mounting tab free side section a series of longitudinally extending weathering ribs.

7. An exterior sheathing element as claimed in any one of the claims 1 to 6 inclusive wherein the mounting tab includes a laterally extending support batten forming channel therein.

8. A method of exterior sheathing a structure with a plurality of sheathing elements as claimed in any one of claims 1-7 inclusive, comprising substantially of repeating the steps of  
5 positioning a first sheathing element on a sheathing element support of the structure, positioning a second sheathing element with a side section thereof in an overlapping relationship with a section side of the first element and in so doing ensuring their corresponding folded edge portions engage one within the other by the side section of the first folded edge portion of the underlay element being located in the groove formed by the corresponding  
10 section of the overlay element, and the side section of the second folded section of the overlay element being located in the groove formed by the corresponding section of the underlay element, and positioning a first folded edge portion of a third sheathing element in engagement over the overlapping sections and adjacent sections of the second folded edge portions of the first and second sheathing elements with those second folded edge sections being located in the  
15 groove formed by the first folded edge portion of the third element, and throughout utilising mounting means with the mounting tabs to affix the sheathing elements to the support.

9. A method of exterior sheathing a structure with a plurality of sheathing elements as claimed in claim 8 when dependant on claims 4-6 inclusive wherein the side section of the second element is positioned under the tab free side section of the first element.

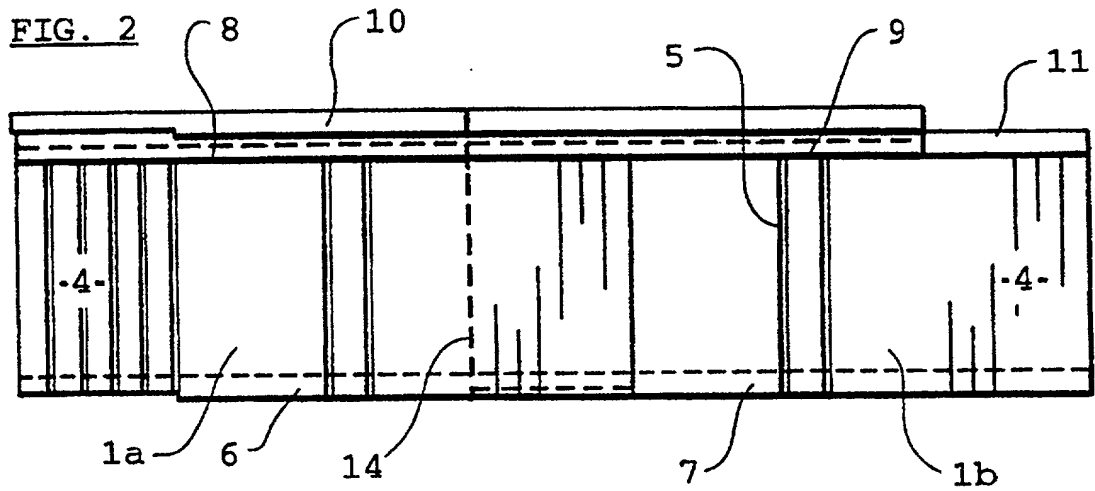
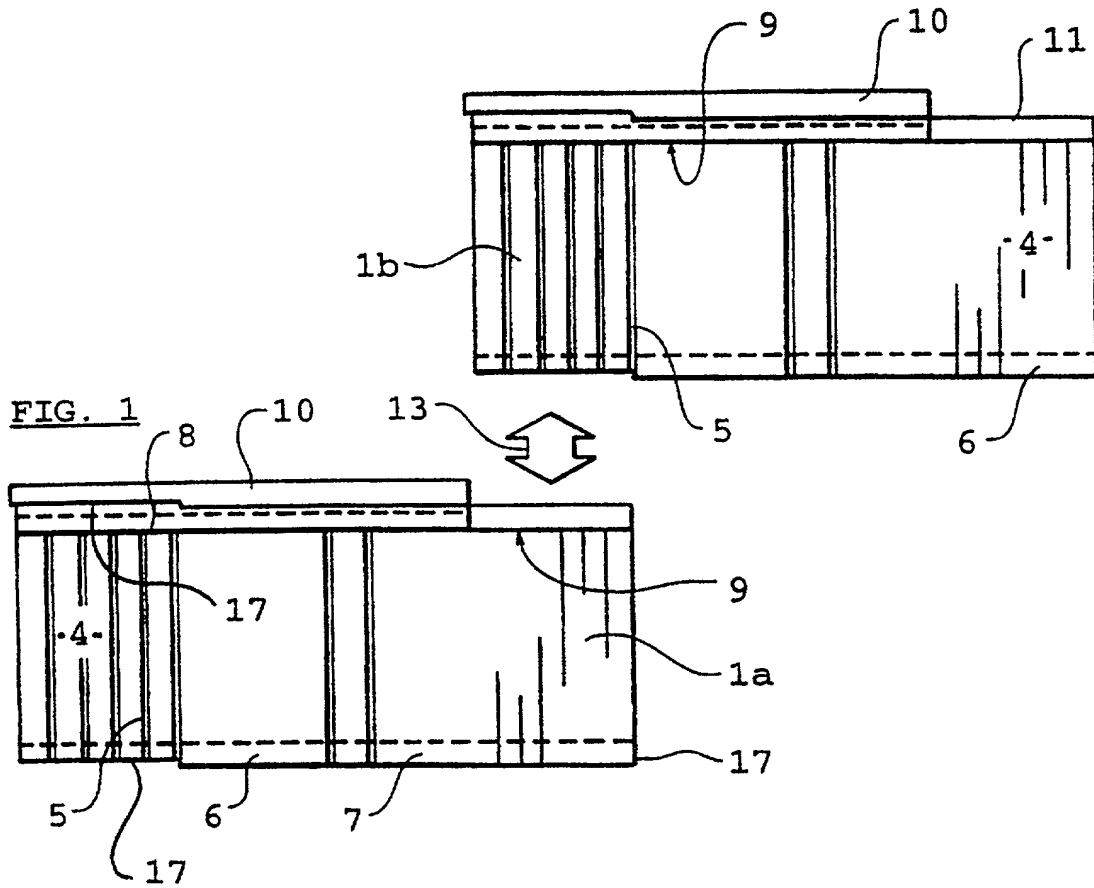


FIG. 3

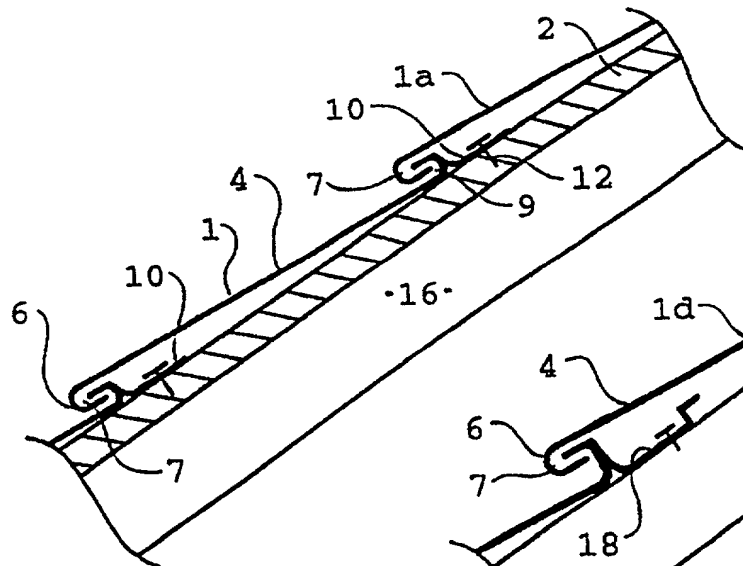
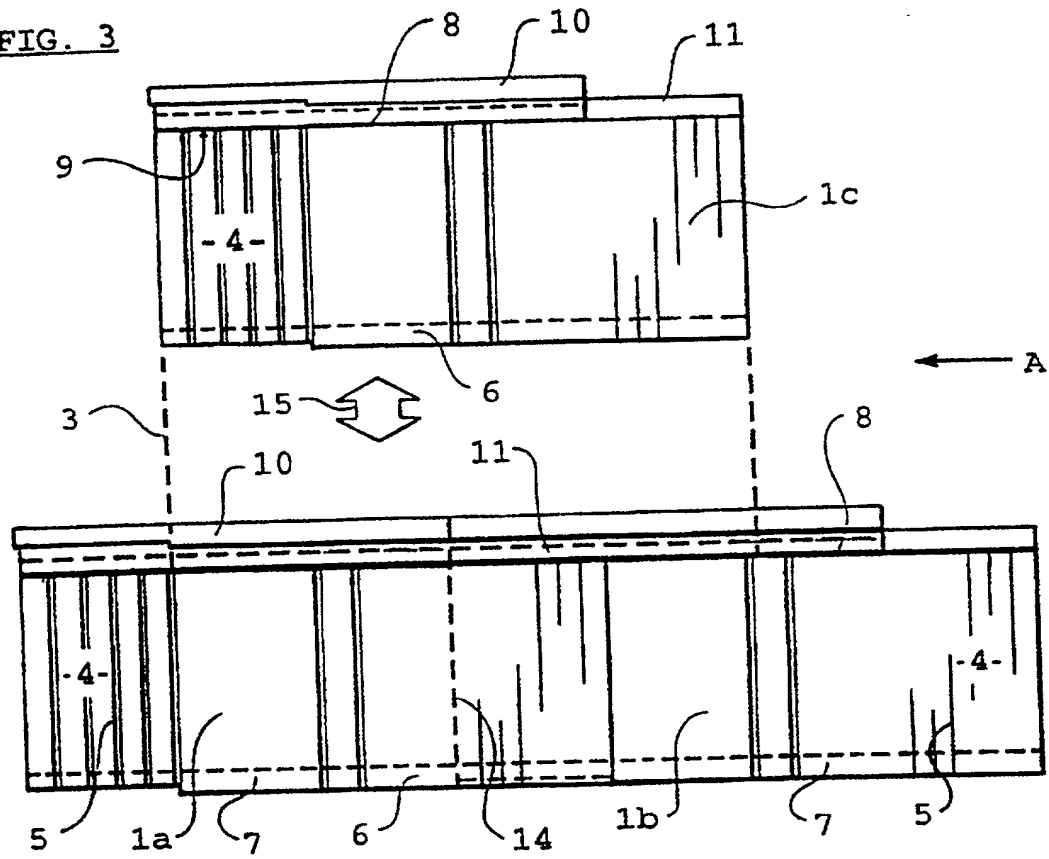


FIG. 4

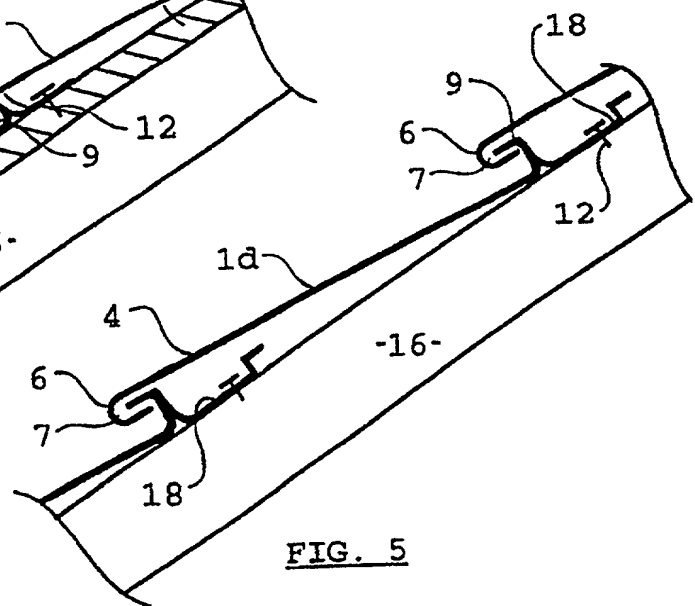


FIG. 5

## DECLARATION AND POWER OF ATTORNEY FOR U.S. PATENT APPLICATION

( ☒ ) Original ( ) Supplemental ( ) Substitute ( ) PCT ( ) Design

As a below named inventor, I hereby declare that: my residence, post office address and citizenship are as stated below next to my name; that I verily believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Title: IMPROVEMENTS IN AND RELATING TO ROOFING OR SHEATHING

of which is described and claimed in:

- ( ) the attached specification, or  
 ( ) the specification in the application Serial No. \_\_\_\_\_ filed \_\_\_\_\_;  
 and with amendments through \_\_\_\_\_ (if applicable), or  
 ( ☒ ) the specification in International Application No. PCT/ NZ99/00018 -, filed 9 February 1999 ✓, and as amended  
 on 30 September 1999 (if applicable).

I hereby state that I have reviewed and understand the content of the above-identified specification, including the claims, as amended by any amendment(s) referred to above.

I acknowledge my duty to disclose to the Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

I hereby claim priority benefits under Title 35, United States Code, §119 (and §172 if this application is for a Design) of any application(s) for patent or inventor's certificate listed below and have also identified below any application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

COUNTRY	APPLICATION NO.	DATE OF FILING	PRIORITY CLAIMED
New Zealand	329756 ✓	13 February 1998 ✓	yes
New Zealand	330021 ✓	23 March 1998 ✓	yes

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

APPLICATION SERIAL NO.	U.S. FILING DATE	STATUS: PATENTED, PENDING, ABANDONED

6- And I hereby appoint Michael R. Davis, Reg. No. 25,134; Matthew M. Jacob, Reg. No. 25,154; Jeffrey Nolton, Reg. No. 25,408; Warren M. Cheek, Jr., Reg. No. 33,367; Nils E. Pedersen, Reg. No. 33,145 and Charles R. Watts, Reg. No. 33,142, who together constitute the firm of WENDEROTH, LIND & PONACK, L.L.P., attorneys to prosecute this application and to transact all business in the U.S. Patent and Trademark Office connected therewith,

I hereby authorize the U.S. attorneys named herein to accept and follow instructions from Newnham & Co as to any action to be taken in the U.S. Patent and Trademark Office regarding this application without direct communication between the U.S. attorneys and myself. In the event of a change in the persons from whom instructions may be taken, the U.S. attorneys named herein will be so notified by me.

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I further declare that all statements made herein of my own knowledge are true, and that all statements on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

1st Inventor James Cameron Ross Date 9/2/2000  
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 5th Inventor \_\_\_\_\_ Date \_\_\_\_\_  
 6th Inventor \_\_\_\_\_ Date \_\_\_\_\_  
 7th Inventor \_\_\_\_\_ Date \_\_\_\_\_

The above application may be more particularly identified as follows:

U.S. Application Serial No. \_\_\_\_\_ Filing Date \_\_\_\_\_  
 Applicant Reference Number \_\_\_\_\_ Atty Docket No. \_\_\_\_\_  
 Title of Invention \_\_\_\_\_